ilmedia

TECHNISCHE UNIVERSITÄT
ILMENAU

Julian Windscheid & Andreas Will

Change Your Perspective: 360°-Video in Video Based Observation

URN: urn:nbn:de:gbv:ilm1-2019200089

related abstract: urn:nbn:de:gbv:ilm1-2019200078

This publication was produced within the framework of:
International Communication Association Annual Conference (ICA), Praha 2018

TU Ilmenau | Universitätsbibliothek | ilmedia, 2018
http://www.tu-ilmenau.de/ilmedia

Change Your Perspective: 360°-Video in Video Based Observation

Julian Windscheid & Andreas Will

Technische Universität Ilmenau - Institute for Media and Communication Science - Media and Communication Management Group

TECHNISCHE UNIVERSITÄT ILMENAU

Medien- und Kommunikationsmanagement Technische Universität Ilmenau

Background

The advantages of video recordings for observation are manifold: Slow-motion, zoom, freezing and the ability to fastforward or rewind allow a detailed examination of complex interactions beyond the capabilities of a participating observer (Schnettler & Raab, 2008). In addition, video can be analyzed by multiple reviewers, which can lead to a better intersubjectivity and "provides a direct referent to behavior which can be checked for intercoder and interresearcher reliability and validity." (Albrecht, 1985: 336)

But despite the advantages of videography, the use of video for observation is repeatedly critically questioned. A frequently discussed problem of videography is in particular the subjectivity of the data material and the related question of whether or to what extent the position and direction of the camera influences the analysis and evaluation of the recorded situation (eg Reichertz, 2014; Bohnsack, 2010; Frankenhauser, 2013; Knoblauch & Schnettler, 2015; Jewitt, 2012; DuFon, 2002, Luff and Heath, 2013; Tuma et al., 2013). Because framing only reveals what happens in front of the camera, it is also determined what is outside. Framing separates the visible from the non-visible (Godman, 2007). For video-based observation, as well as analysis and assessment of a situation, this circumstance appears to be highly problematic.

The solution: 360° recordings! At first glance, it seems like this technique could be a great advance for scientific observations. Framing is lifted, a „before and behind the camera" doesn't seem to exist anymore. Multi-perspectives become superfluous and the cameraman no longer needs clairvoyantabilities. In addition, multiple reviewers can analyze a scene without having a predetermined focus. Therefore, the use of 360° cameras makes it possible to digitize a comparatively realistic form of participant observation.

Research Question

To what extent does the quality and quantity of a video-based observation differ by using "classic" and 360° video?

Design

- Experiment (in the context of video-based classroom observations)
- Two different videos (360° or „classic") for each participant
- Tasks: Observation log and NASA TLX workload test
- The sequence (Video 1 or Video 2) and the camera angle (360 ° or „classic") were selected at random

Material

Video 1

In the first scenario, a 360° video was compared to a fixed camera perspective (classroom overview).

- Duration: 5:22 min.

Video 2

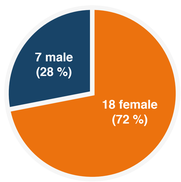
In the second scenario, a 360° video was compared to a moving camera (panning and zooming).

- Duration: 6:33 min.

- Both scenarios were recorded with only one 360° camera
- The „classic" videos were created from the material of the 360° recordings ➔ same camera position

Sample

- average age: 20,63 years
- pre-service teacher (3rd sem.)
- all participants were part of an one-semeser course for (video-based) observation

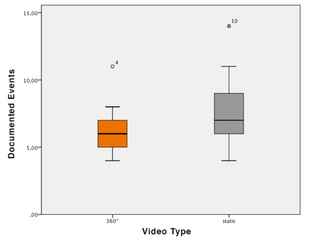


N = 25

Results

Video 1 (static vs. 360°)

Documented Events

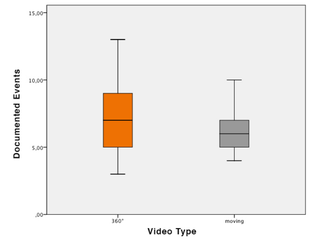


360°
n = 12
M = 6,25
SD = 1,96

static
n = 13
M = 7,70
SD = 2,78

Video 2 (moving vs. 360°)

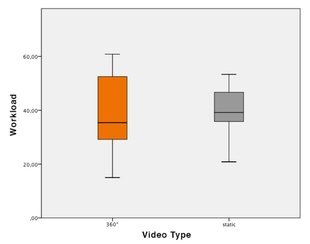
Documented Events



360°
n = 12
M = 7,25
SD = 2,73

moving
n = 13
M = 6,31
SD = 1,84

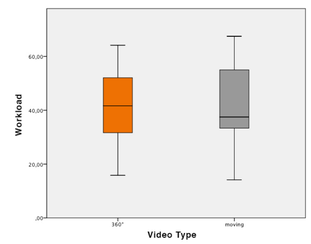
Workload (NASA TLX)



360°
n = 12
M = 39,38
SD = 14,19

static
n = 13
M = 38,78
SD = 9,58

Workload (NASA TLX)



360°
n = 12
M = 41,60
SD = 13,88

moving
n = 13
M = 40,58
SD = 15,55

Conclusion

- Regarding Video 1, more events were observed with the static video than with the 360° video. Possible explanation: 360° function is distracting and creates „artificial framing".
- Regarding Video 2, more events were perceived with the 360° camera than with the moving camera. Possible explanation: When the camera is in motion, many events are not visible because they are outside the camera image („real framing").
- Workload is almost identical for both video types. There were no significant differences.

References

- Albrecht, G. L. (1985). Video tape safaris. Entering the Field with a Camera. In: Qualitative Sociology, 8 (4), 325-344.
- Bohnsack, R. (2010): Zugänge zur Eigenlogik des Visuellen und die dokumentarische Videointerpretation. In: Corsten, M., Krug, M.,Moritz, C.,Videographie praktizieren.Herangehensweisen, Möglichkeiten und Grenzen, Wiesbaden: Springer
- DuFon, M. A. (2002): Videorecording in SLA Ethnographic Research: Some issues of validity in data collection. In: Language Learning & Technology Vol. 6, No.1, pp. 40-5
- Fankhauser, R. (2013). Videobasierte Unterrichtsbeobachtung: die Quadratur des Zirkels? In: Qualitative Social Research, 14(1), Art. 24, http://nbn-resolving.de/urn:nbn:de:0114-fqs1301241
- Goldman, R., Erickson, F., Lemke, J.; Derry, S. (2007): Selection in video. In: Guidelines For Video Research In Education: Recommendations From An Expert Panel, Data Research and Development Center (NORC at the University of Chicago)
- Jewitt, C. (2012): An Introduction to Using Video for Research. NCRM Working Paper. Retrieved 20.10.2017 from http://eprints.ncrm.ac.uk/2259/
- Knoblauch, H.; Schnettler, B. (2015): Video and Vision: Videography of a Marian Apparition. In: Journal of Contemporary Ethnography, Vol. 44(5) pp. 636–656
- Luff, P., Heath, C. (2012): Some „technical challenges" of video anaysis: social actions, objects, material realities and the problem of perspective. In: Qualitive Research. Vol. 12(3) pp. 255-279
- Reichertz, J. (2014): Das vertextete Bild. Überlegungen zur Gültigkeit von Videoanalysen. In: C. Moritz (Hrsg.), Transkription von Video- und Filmdaten in der Qualitativen Sozialforschung. Wiesbaden: Springer
- Tuma, R.; Schnettler, B.; Knoblauch, H. (2013): Videographie. Einführung in die interpretative Videoanalyse sozialer Situationen. Wiesbaden: Springer

68th Annual ICA Conference
Prague, Czech Republic
24-28 May 2018

Contact Information:

Julian Windscheid | julian.windscheid@tu-ilmenau.de | Tel: +49-3677-69-4680

Andreas Will | andreas.will@tu-ilmenau.de | Tel: +49-3677-69-4708

Institut für Medien und Kommunikationswissenschaft